

## Case Report

# Ileoileal intussusception secondary to angiofibrolipoma

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### ABSTRACT

Intussusception is an uncommon cause of intestinal occlusion in adults, accounting for 1-5% of the causes. In this group it is important to rule out malignant tumors as the primary cause of intussusception. This pathology is explained by the invagination of a segment of the intestine onto itself. The clinical manifestations are those typical of intestinal occlusion. Within the study protocol, the CT scan shows the target sign or sausage image depending on the slice. Surgical management will be necessary in order to re-establish intestinal transit and remove tumors. We present the case of a 45-year-old woman with upper intestinal occlusion secondary to ileoileal intussusception due to submucosal angiofibrolipoma.

**Keywords:** Intussusception, Bowel, Occlusion, Laparotomy, Resection, Anastomosis

### INTRODUCTION

Intussusception is described as the displacement of a proximal segment of the gastrointestinal tract into the lumen of the adjacent one. It is an infrequent condition and accounts for 1-5% of the causes of intestinal obstruction.<sup>1</sup> In adults, it's important to rule out malignant tumors as the axis of this intussusception, as they are the cause in 90% of the cases.<sup>2</sup>

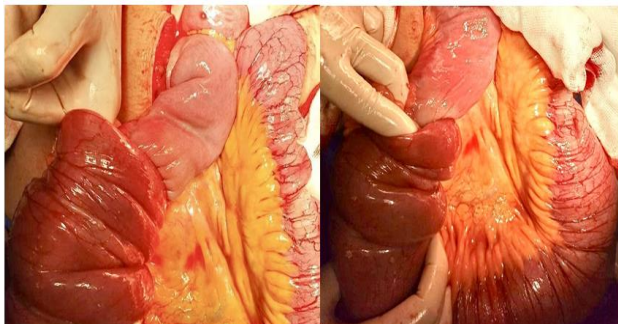
The underlying pathophysiology is explained by the invagination of a segment of intestine into an adjacent segment, generating intestinal blockage, alterations in perfusion, ischemia and risk of perforation.<sup>3</sup> The clinical manifestations of patients with intussusception are typical of intestinal occlusion. The ideal treatment for these patients involves surgery to restore intestinal transit and rule out malignant tumors, favoring resection and anastomosis.<sup>4</sup>

### CASE REPORT

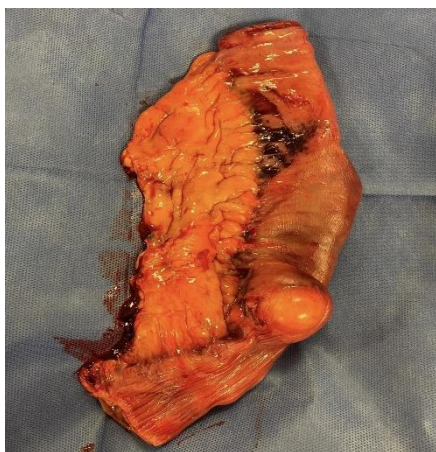
We present the case of a 45-year-old female patient with no comorbidities, who began suffering from 72 hours of evolution with abdominal pain in mesogastrium, intensity 6/10 on a numerical analogue scale, nausea and emesis of gastroalimentary content, as well as inability to pass gas nor evacuations in the last 48 hours. She was admitted to the unit for medical approach and management, starting fasting, solutions, analgesic and placement of a nasogastric tube. Physical examination revealed an absence of peristalsis, distension, pain on superficial and deep palpation, generalized tympanism, with no evidence of peritoneal irritation, for which reason it was decided to continue with the initial management.

Laboratory analysis showed evidence of leukocytosis at the expense of neutrophilia, hyponatraemia and hypokalaemia, and fluid and electrolyte correction

management were initiated. Computed axial tomography of the abdomen showed high intestinal occlusion secondary to a tumor due to intussusception.



**Figure 1: Enteric intussusception at distal ileum, caused by a 4 cm tumor in the antimesenteric side, without evidence of necrosis nor perforation.**



**Figure 2: Product of enbloc ileum resection, evidence of a 4 cm tumor on the antimesenteric side of the ileum, negative for malignancy. Histopathology study reporting submucosal angiofibrolipoma of ileum.**



**Figure 3: Restoration of intestinal transit following segmental resection of the ileum through a manual, single-plane, termino-terminal intestinal anastomosis with 3-0 vicryl.**

The patient presented with progressive clinical deterioration and due to the findings of the imaging study, emergency surgical management was decided. An exploratory laparotomy was performed with the finding of small bowel intussusception, ileoileal, due to a 4 cm tumor on the antimesenteric side of the ileum, without evidence of necrosis or perforation (Figure 1). Intestinal resection and intestinal anastomosis, termino-terminal, manual in 1 plane with 3-0 Vicryl was decided. The operation was completed without complications, with transoperative bleeding of 250 CC (Figures 2-3). Medical management continued on the ward according to ERAS protocol and discharge was decided on the fifth postoperative day. Histopathology study reported a 4 cm submucosal angiofibrolipoma of the small intestine with focal transmural hemorrhage, negative for malignancy, surgical margins without tumoral activity.

## DISCUSSION

Intussusception is the invagination and slippage of an intestinal segment into the lumen of an adjacent segment, 90% of which in adults is due to a pathological landmark such as tumors.<sup>1-5</sup> It accounts for 1-5% of the causes of intestinal obstruction in adults and is less common in the colon.<sup>6</sup> Intussusception can be classified according to the segment involved, the most common presentation being ileocolic and the least common colocolic. They can also be classified according to etiology and whether or not they have a pathological site or landmark, mainly in the case of adults.<sup>6</sup> Four types of intestinal intussusception are described, the enteric limited to the small intestine, ileocolic when the terminal ileum invaginates into the right colon without invaginating the cecal appendix, ileocaecal when the segment of terminal ileum and cecum invaginate into the ascending colon, and colocolic limited to the colon and rectum.<sup>7</sup>

When invagination and slippage of a segment of intestine into the adjacent intestinal lumen occurs, the mesentery is also tractioned. This promotes lymphatic congestion, reduces perfusion and promotes oedema and ischaemia, leading to gangrene and perforation.<sup>7</sup> The clinical manifestations in adult patients are typical of intestinal occlusion, with abdominal pain and even palpable tumor.<sup>6</sup> In contrast to pediatric patients who present with symptoms suggestive of intussusception, non-specific abdominal symptoms predominate in adults, the most common being abdominal pain and evidence of intestinal occlusion.<sup>8</sup> Plain abdominal radiographs are used as an initial imaging study identifying distended loops and hydro-aerial levels. Ultrasound can identify the target sign by the presence of the intussuscepted segment.<sup>6</sup> Computed axial tomography of the abdomen is the most sensitive imaging study for the diagnosis of this pathology.<sup>7</sup> The diagnosis can be made preoperatively in up to 89.1% of cases if imaging studies such as ultrasound or computed tomography are available.<sup>9</sup>

Three images suggestive of intussusception on computed tomography are described. The target image has soft tissue density in the center and fat density in the periphery. The kidney image is a lobulated structure with central attenuation and increased enhancement towards the periphery. The sausage image represents alternating areas of higher and lower attenuation corresponding to the loop wall, lumen, gas and fat that are part of the intussusception site.<sup>10</sup> Surgical treatment is necessary in this case in order to avoid progression of ischaemia, gangrene and perforation of the affected segment. Resection with an oncological approach should be considered in case of suspicion of malignant tumors, given the risk of dispersion of tumor cells, reduction of intussusception is not suggested.<sup>6</sup> Surgical management of intussusception is still debatable whether to perform en bloc resection or to reduce intussusception prior to resection, due to the risk of malignancy in adult patients. This doubt predominates in the case of patients with intussusception at the colon level due to the risk of presenting with adenocarcinoma, whereas in the case of intussusception at the small bowel level, given the lower risk of malignancy, it could be considered to reduce the intussusception.<sup>11</sup>

## CONCLUSION

Intussusception in adults is caused by invagination and slippage of an intestinal segment into the lumen of an adjacent one. In adults there is in most cases a pathological anatomical site that serves as the axis for this slippage, with up to 90% being malignant tumors. Early diagnosis and treatment are essential to reduce ischaemia, perforation and sepsis. Computed tomography is a modality of choice with a diagnostic accuracy of up to 100%. This pathology remains a rare entity and differential diagnosis should be considered in case of intestinal obstruction with surgical management being the choice.

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